

CLAIMS

1. A heat insulating stamper with a pattern on a surface thereof for use in molding an optical disc substrate, comprising:

an uppermost section made of a metal material;

a lowermost section made of the same material as the uppermost section; and

10 a middle section having a heat conductivity lower than the uppermost section, and including the same metal material as the uppermost section and the lowermost section, and heat insulating portions.

15 2. The heat insulating stamper as claimed in claim 1, wherein the heat insulating portions are dispersed in a matrix formed with the metal material in the middle section.

20 3. The heat insulating stamper as claimed in claim 1 or 2, wherein the heat insulating portions include heat resisting substances dispersed in the metal material included in the middle section.

25 4. The heat insulating stamper as claimed

in claim 1 or 2, wherein the heat insulating portions are defined by minute voids present in the metal material included in the middle section.

5               5. The heat insulating stamper as claimed in claim 3,

                  wherein the middle section is interposed in the form of a layer between the uppermost section and the lowermost section; and

10              the heat resisting substances are dispersed in the middle section such that concentration of the heat resisting substances varies at least in a depth direction of the layer.

15              6. The heat insulating stamper as claimed in claim 1, wherein the metal material includes Ni.

                  7. The heat insulating stamper as claimed in claim 3, wherein the heat resisting substances 20 include a heat resisting resin and a heat resisting inorganic material.

                  8. The heat insulating stamper as claimed in claim 7, wherein the heat resisting resin includes 25 particles of a fluorinated resin (PTFE:

polytetrafluoroethylene, PFA: perfluoroalkoxy resin, ETFE: tetrafluoretilen, PVDF: polyvinylidene fluoride), aromatic polyimide particles, aromatic polyamide particles, and silicon resin particles.

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9. The heat insulating stamper as claimed in claim 7, wherein the heat resisting inorganic material includes zirconia series, alumina series, silicon carbide series, or silicon nitride series.

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10. A method for manufacturing a heat insulating stamper which includes an uppermost section made of a metal material, a lowermost section made of the same material as the uppermost section, 15 and a middle section having a heat conductivity lower than the uppermost section, and including the same metal material as the uppermost section and the lowermost section, said method comprising:

a step of utilizing electroforming to 20 manufacture said heat insulating stamper.

11. The method for manufacturing a heat insulating stamper as claimed in claim 10, wherein the lowermost section, the middle section, and the 25 uppermost section are subjected to electrodeposition

using a single electroforming apparatus.

12. An optical disc that is manufactured by using the heat insulating stamper of claim 1.